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| SHERIDAN ROSS PC 1560 BROADWAY SUITE 1200 DENVER, CO 80202 | | | EXAMINER SAYALA, CHHAYA D | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/798,008

Applicant(s)

MARKHAM ET AL.

Examiner

C. SAYALA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19-24 and 26-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19-24, 26-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 14-17, 19-24, 26-27, 30-33, 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Wenger (US Patent 5939124) and Hauck et al. (US Patent 6609819) in view Martin et al. (US Patents 5820039 and 5713526) and further in view of Miller et al. (US Patent 3899607), Fritz-Jung et al. (US Patent 6270820) and Spanier (US Patent 4997671).

Wenger teach extruding starch-bearing grains such as milo (see col. 7, lines 1-3), with the addition of fish-meal into pellets. Note col. 3, lines 15-30 and col. 9, lines 30-65 and col. 17, lines 5-10 that teach the variation of moisture content for the density required. See col. 9, lines 60-65 that teach equilibrating moisture levels after extrusion by cooling/drying, i.e. curing and that the final product has a moisture content of up to 20 wt% or preferably up to about 18 wt%. Similarly, Hauck et al. teach extruding sorghum (col. 6, line 5) with a Wenger extruder under different operating conditions and amounts of ingredients so that both dense pellets such as for aquatic feed and less dense pellets such as for bird feed can be manufactured (see col. 6 and col. 7) and also medium density pellets for pet foods (col. 2). The patents do not show decorticating, cleaning, de-stoning and scouring milo.

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Martin et al. teach decorticating, cleaning, de-stoning and scouring milo berries. See Fig 1. Col. 1 states that such processes remove the bitter tannins from milo berries. The berries are then ready for use in food products (see col. 2, lines 25+).

It would have been obvious to use the Martin et al. process to precede the extrusion shown by Wenger and Hauck et al. for the reasons shown by Martin et al., which is to improve the taste. Further, cleaning and other preparation steps preceding food manufacture using sorghum grain, appear to be known in the art at the time the invention was made and would have been obvious to one of ordinary skill in the art.

Note that Martin et al. discloses de-hulling and scouring, stating that scouring removes any remaining hull (col. 3, lines 12-13). However, when the claim is read in light of the specification, it is clear that the scouring should have done what is disclosed by the instant specification as well, which is de-fatting the milo, even though the reference only states that the scouring removed any remnant hull and is silent about removing fat. The scouring is the same and is conducted similarly, after de-hulling, and therefore, must have resulted in the same de-fatting step

The above patents do not teach grinding the extruded product and re-extruding the product to be molded, baked or pelletized. Fritz-Jung et al. teach such steps. See col. 3, lines 45+, where the extruded product is ground and re-extruded and cut into kibbles. Miller et al. also teach grinding the extruded food product and then re-extruding the resultant product into a molded product. See col. 5, lines 1-20. Such steps therefore, were old and known in the art when food products with proteinaceous and farinaceous ingredients were used and extruded. Spanier teaches using milo as the

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grain ingredient and extruding the dough by means of extrusion molding. See col. 6, line 47, col. 8, line 62 to col. 9, line 6, col. 10, line 48 to col. 11, line 13 and col. 12, lines 35-47. Example 1 teaches that the extruded dough when molded is baked in an oven at 185-200°F. Wenger and Hauck et al. teach extruding milo containing food into pellets.

To incorporate steps that include grinding and re-extruding by extrusion molding and baking the molded product or cutting the re-extruded product into kibbles or extruding into pellets would have been obvious to one of ordinary skill in the art at the time the invention was made, since prior art as applied above teach that these were known in the art and were practiced to obtain the desired shape. Wenger and Hauck teach extrusion too with use of milo as an ingredient, and extrusion into molds, as pellets and baking an extruded product were all embodiments known in the food art as established by these references and all when sorghum/milo was one of the ingredients.

2. Claims 28-29 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wenger (US Patent 5939124) and Hauck et al. (US Patent 6609819) in view Martin et al. (US Patents 5820039 and 5713526), Miller et al. (US Patent 3899607), Fritz-Jung et al. (US Patent 6270820) and Spanier (US Patent 4997671) and further in view of Langford et al. (US Patent 2368668) and Watson (STARCH:Chemistry & Technology, Eds. Whistler et al., second edition, 1984, Chapter XII).

Wenger teach extruding starch-bearing grains such as milo, corn, wheat, soy, oats, etc. (see col. 7, lines 1-3), with the addition of fish-meal and vitamin premixes (see

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col. 3, lines 15-24, 40-50). Note also col. 9, lines 30-65, which states: "Protein and/or starch can be provided by appropriate protein and starch-bearing materials or through direct addition of desired proteins and starches." However, the patent does not teach obtaining such starch from these starch-bearing materials. See col. 9, lines 60-65 that teach equilibrating moisture levels after extrusion by cooling/drying, i.e. curing. Since the Wenger patent envisions the use of pet foods as part of its concept, then the other additives of claim 13 are rendered obvious since they are typical of pet food products. The patents do not show decorticating, cleaning, and removing starch from the grain.

Martin et al. teach decorticating, cleaning, de-stoning and scouring milo berries. See Fig 1. Col. 1 states that such processes remove the bitter tannins from milo berries. The berries are then ready for use in food products (see col. 2, lines 25+).

As for removing starch from the grain, such processes are known in the art as evidenced by the processes of Langford et al. and Watson. See claims and pages 433+, respectively. To incorporate such in the teachings of Wenger so that starch can be used directly in making those products would have been prima facie obvious. Note that at pages 463-464, Watson teaches that the starch obtained from sorghum and corn grains can be used in pet foods as well as other feed products.

It would have been obvious to use the Martin et al. process to precede the extrusion shown by Wenger for the reasons shown by Martin et al., which is to improve the taste. Further, cleaning and other preparation steps preceding food manufacture using grains, appear to be known in the art at the time the invention was made and

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would have been obvious to one of ordinary skill in the art (see Watson). The patents to Miller et al., Spanier and Fritz-Jung et al. are all as discussed above and render obvious limitations of grinding the extruded product, re-extruding the resultant product into a molded product and also render obvious such processes as baking or pelletizing extruded products.

Response to Arguments

Applicant's arguments filed 3/7/2007 have been fully considered but they are not persuasive.

At page 9 of his remarks, applicant states that Hauck is inapplicable because at col. 20, lines 54-63, Hauck teaches removing oil from the extruded feed, which would render the defatting step unnecessary. At col. 19, line 55, Hauck clearly indicates that this is only one of the embodiments of using the invention wherein it can be "especially designed for extraction of oil from oil seeds". "In this instance", patentees state, "the extruder 138 is a three-head design". One of ordinary skill in the art would certainly realize that such disclosure by this patent does not mean that the invention cannot be used as described in the rejection above or as in the rest of the patent.

Next Martin has been criticized for not teaching the de-fatting step. The specification has been thoroughly reviewed and no where is there any particular process that has been presented that de-fats the seed other than the following at page 7:

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The next step in the method is shown at block 18 which is an optional step of scouring the grain to remove fatty oils or lipids. There are two distinct advantages for de-fatting the Milo grain at this stage. The first is enhancing the consistency and repeatability of the extrusion process because fats in the grain tend to act as a lubricant through the extrusion die, thereby degrading extruder operation. The second advantage is the production of a more nutritional pet food which has less fat content. Well-known grain scouring processes may be used to remove the fatty endogerm from the Milo grain. Although scouring is discussed as a step in the basic method, it shall be understood that scouring is not necessarily required as it may be desirable in some circumstances to have certain levels of fat within the food product. Additionally, scouring may be eliminated to simplify the overall food production process.

Thus the position of the Office that scouring would have inherently removed the fat, is supported by the fact that the specification discloses nothing more. Furthermore, the motivation to remove fat is ever existent, as the person of ordinary skill well knows, which is to prevent rancidity and deterioration during storage and to prevent the oil from hindering extrusion processes and for the known health benefits of ingesting less fat.

As for applicant's final criticism of the rejections, of claims 28-29 & 37, at pages 11-12 of his response, that each of the references do not teach or suggest "to extract the starch from the desired grain, mix that isolated starch with the feed additive and extruding the isolated starch, in the absence of any grain."

"Additionally, there is no suggestion in Wenger that any of the food products taught could be formed from a starch-only feed or a grain-free starch/additive mixture. Further, there is no suggestion or teaching in Wenger, Hauck, Martin, Watson or Langford that a purified starch could be successfully isolated and extruded to form a food product, and therefore, the prior art cited by the Examiner does not provide a reasonable expectation of successfully practicing the methods of Claims 28, 29 and 37. For these reasons, the combination of Wenger, Hauck, Martin, Miller, Fritz-Jung, Spanier, Langford and Watson does not teach or suggest every limitation of Claims 28, 29 and

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37 that require extrusion of a starch-additive mixture wherein the starch is isolated from a grain or tuber, and Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) based on this combination of references be withdrawn.

As stated in the rejection, Watson et al. teach the production of starch from grain and thereafter using it in pet foods. If applicant's position is that each and every limitation of applicant's claims should be shown by a single reference, then this is an erroneous standard. If on the other hand, applicant's position is that the references do not show that extrusion of grains was dispensed with by isolating starch from the grain and using only such starch for extruding pet foods, then it must be said that the steps of starch being mixed with additives and extruded to pet foods is practiced countless number of times at pet food production units, since this is an old and known process (see Watson/Spanier/Miller), and the specification does not appear to establish that applicant was the first to invent such a process. In fact, page 3 of the specification sums up the premise of applicant's invention:

Among the cereal grains used for making pet food or pet treats, corn and wheat are perhaps the most well known. Other types of grains may be added in smaller portions to the larger portions of wheat or corn in those dry food rations which are made by extrusion.

.....
Sorghum Vulgare is perhaps the oldest domesticated plant known to man. It is has been hybridized since early Egyptian years and is very diversified in its hybrid state. Varieties commonly referred to as Milo have few if any uses other than for animal feed. Sorghum Vulgare is widely used in the United States as a less expensive feed grain in comparison to corn or wheat. Other parts of the world, particularly Africa and Asia, use Sorghum for flour and human food. In the United States, Milo as a particular group of hybrids, is a very different type of cereal grain as compared to Sorghum which is grown in

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other parts of the world. In the United States, a need was established early on for developing a feed grain that was resistant to various growing problems. These problems included drought, insect infestations, migrating birds, and high winds. As a result of these factors, Milo has evolved into special hybrids which are able to withstand the various growth problems. Accordingly, the type of Sorghum available particularly in the United States is a very successful grain, but is not well suited for any use other than standard feed grain.

At page 5, applicant states that operations of de-cortication (lines 2-3), can be performed by well known methods. This is repeated at page 9, lines 1-10. At page 8, (line 22) applicant states that de-stoning can be performed by any well-known method. At page 9, applicant states that grain scouring (line 14) can be performed by well-known methods.

" Well-known grain scouring processes may be used to remove the fatty endogerm from the Milo grain."

Additionally, references such as Spanier and Watson teach that milo was already being used in pet foods and Wenger discloses that milo was extruded for pet foods before the filing date of the instant invention.

Applicant therefore, to establish the patentability of the instant invention, should point to some unobvious result. Otherwise, it appears that the combination of references applied render the claims obvious.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Sayala whose telephone number is (571) 272-1405. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business

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Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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